

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Inventors	Alan J. Lipton et al.
Application No.	Not Yet Assigned
Confirmation No.	Not Yet Assigned
Filing Date	January 30, 2004
Title	Video-Based Passback Event Detection
Art Unit	Not Yet Assigned
Examiner	Not Yet Assigned
Attorney Docket No.	37112-192025
Customer No.	26694

Petition to Make Special Under 37 C.F.R. § 1.102

Mail Stop Petition

Honorable Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

It is hereby petitioned that the above-identified U.S. Patent Application be granted "Special" status under 37 C.F.R. § 1.102, as being applicable to countering terrorism, for the reasons that follow.

The current system deserves special consideration because it has numerous applications to homeland security, and specifically to defense against terrorism. Although the invention is widely applicable, and the patent application describes multiple applications, one intent of the invention was as a surveillance technology to detect unusual activity. In fact, one of Applicants' motivations in developing the invention was that the U.S. Customs Service requested the development of such technology, specifically to address counter-terrorism problems.

There are several scenarios in which the present invention may contribute to countering terrorism, including the following:

- **Alarm Systems.** Many security personnel watch closed-circuit TV (CCTV) to detect potential terrorist threats, for example, at airports, military installations, factories, power plants, etc. Unfortunately, this approach is not effective; there is simply too much data for anyone to watch in real-time. The figure below illustrates a state-of-the-art video surveillance installation. Manually monitoring such a large number of video displays to satisfaction, over just a few hours, would require super-human vigilance. Moreover, periodic distractions due to other job duties could mean that many video feeds are regularly not monitored. The current invention addresses this problem. A permanently-attentive computer system may detect unusual activities automatically, and thus addresses a critical problem with current counter-terrorism surveillance.



- **Increased Resolution.** Another problem with CCTV-based counter-terrorism is the prevalence of wide-angle cameras, derived from the need to cover large areas with as few cameras as possible. The result is that potential threats may appear extremely small in the CCTV view, and personnel are able neither to recognize objects in the view nor to

determine if the object is a potential threat. Even though some people have pan-tilt-zoom (PTZ) cameras to enable closer examination, humans are often too slow to take action to find the offending object. The current invention addresses this problem by employing computer processing to automatically analyze video.

- **Passback Event Detection.** The present invention may implement automated passback event detection using computer-based video processing techniques. For example, the invention can detect a person going the wrong way through a security checkpoint at an airport. In contrast to the traditional approaches, the inventive video surveillance system may provide 24/7 (i.e., 24 hours a day, 7 days a week) vigilance without requiring traffic flow limiting physical barriers and/or constant monitoring by a person (e.g., a security guard), although such barriers and monitoring may provide additional layers of surveillance and/or security. In addition to detecting a passback event and initiating an alert when it happens, the inventive system may also automatically record snapshots and/or video of the passback event. The invention may also operate in real time.
- **Applicable Environments.** The invention is able to operate in a multitude of environments requiring vigilance against terrorism. Examples of such video monitored areas where the invention may be deployed include: an entrance or exit of a secure area at an airport, train station, customs area, or passenger terminal; an area before and/or after a security check point; an entrance and/or exit of a sterile area (e.g., a secure area, or a clean room); a corridor; a hallway; a passageway; a tunnel; an entrance and/or exit for a public or paid event (e.g., sport, music, or political); a parking lot; an escalator; an elevator; a people mover; a subway entrance and/or exit; a restroom; a waterway; an area

desirably having one-way traffic; an area having unrestricted traffic flow; and an area monitored by video.

A check for the required fee of \$130.00 (37 C.F.R. § 1.17(h)) is attached. The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency (including if the check is not attached), or to credit any overpayment, to our Deposit Account No. 22-0261. A duplicate copy of this Petition is enclosed.

Respectfully submitted,

Date: January 30, 2004



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